

U.S. Patent Application Serial No. 09/531,677
Amendment Under 37 C.F.R. §1.111 dated September 30, 2003
Reply to the First Rejection of May 2, 2003

REMARKS

Claim 11 has been added. Therefore, claims 1 - 11 remain pending in the present application.
The rejections set forth in the Office Action are respectfully traversed below.

The Abstract:

A substitute Abstract, as requested in the Office Action, was provided above.

Rejections Under 35 U.S.C. §102:

Claims 1, 3, 5 and 7 were rejected under 35 U.S.C. §102 over the Applicant's Admitted Prior Art (hereinafter, "APA"). The Office Action referred to Figure 2 of the present application, as well as page 2, lines 9 - 37 and page 3, lines 1 -17. However, the Office Action does not set forth any reasons explaining how these particular portions of the present application anticipated each and every feature of claim 1. The Office Action merely appears to repeat the language of claim 1, with the references to the cited portions of the present application.

Nevertheless, it is submitted that the APA described in the present application does not teach or suggest all the features recited in the independent claims. As discussed on pages 7 to 8 of the present specification, the Admitted Prior Art may suffer from the problem of noise entering the reference signal FRAR and the inverted signal XFPAR of the output of the frequency divider 104. Ultimately, such noise causes the phases of the reference signal FRAR and the inverted signal XFPAR of the output of the frequency divider 204 to be greatly shifted in relation to each other (as

shown in Figure 9). In addition, the Admitted Prior Art may also suffer from the problem wherein the phase difference between the reference signal FRAR and the inverted signal XFPAR becomes constant (see, Figure 10), thereby preventing the internal power saving restriction signal PSRS to become high. As a result, the internal circuits of the phase comparator unit 101 are not actuated.

In the present invention, for the power saving operation of the PLL circuit, the reference signal frequency dividing unit and the comparison signal frequency dividing unit are initialized by the first initializing signal and the second initializing signal, after the outputs of both the reference signal frequency dividing unit and the comparison signal frequency dividing unit are changed. As a result of the initializing operation, the phase difference between the reference signal frequency dividing unit and the comparison signal frequency dividing unit input into the phase comparator becomes smaller than a predetermined value when the power saving state is canceled. Accordingly, accurate and stable canceling of the power saving state is carried out.

The independent claims recite "a first initializing signal for initializing the output of the step of dividing the frequency of a reference signal in accordance with the power saving state cancelling signal" and "a second initializing signal for initializing the output of the step of dividing the frequency of an input signal in accordance with the power saving state canceling signal." New claim 11 recites "generating an initializing signal for initializing the dividing the frequency of the reference signal or the frequency of the input signal in accordance with the power saving state canceling signal." According to these, and other features recited in each independent claim, when a change is detected in the outputs of the step of dividing the frequency of a reference signal and the step of

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dividing the frequency of an input signal, the step of dividing the frequency of a reference signal is *reset* in accordance with the first initializing signal, and the step of dividing the frequency of the input signal is *reset* in accordance with the second initializing signal. By doing so, the phase difference between the two signals inputted into the phase comparator in a power saving canceled state becomes smaller than a predetermined value. Also, a power saving state is not wrongly canceled due to noise or the like when the phase difference of internal signals is greater than the predetermined value. Moreover, incorrect canceling of a power saving state due to the relationship between the timing of a power saving restriction signal rise and the phases of the reference signal and the output of the frequency divider can be prevented (see e.g., pages 9 to 10 of the present specification).

The APA does not teach or suggest the claimed first and second initializing signals, that respectively initialize the output of the step of dividing the frequency of a reference signal, and the output of the step of dividing the frequency of an input signal, in accordance with the power saving state canceling signal. These distinguishing features (or variations thereof) are recited in independent claims 1, 3, 5, 7 and 9. Therefore, the present claimed invention patentably distinguishes over the prior art.

With regard to claims 3 and 7, the Office Action merely stated that each of these claims "inherits all limitations of claim 1." Whether or not another claim inherits any of the limitations of claim 1 is irrelevant to whether a cited prior art reference anticipates or renders obvious each and every feature recited in each of the independent claims. Therefore, the Office Action had not set

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forth any basis for rejecting claims 3 and 7. Accordingly, the rejection of claims 3 and 7 are improper and should be withdrawn.

It should also be noted that claim 3 does not depend from claim 1 and does not inherit any feature recited in claim 1 as alleged in the Office Action. Likewise, claim 7 does not depend from claim 1 and does not inherit any feature recited in claim 1 as alleged in the Office Action.

Rejections Under 35 U.S.C. §103:

Claims 2, 4, 6 and 8 were rejected under 35 U.S.C. §103 over the APA, and further in view of **Yoshinaka** (USP 5,877,657). The further reference to **Yoshinaka** was made merely for the alleged disclosure regarding frequency dividing rates, used in the step of dividing the frequency of the reference signal, and in the step of dividing the frequency of the input signal, being set independently of each other. However, claims 2, 4, 6 and 8 distinguish over the prior art for at the reasons that their respective independent base claims distinguish over the prior art as discussed above. The further reference to **Yoshinaka** does not remedy the deficiencies of the primary reference to the Applicant's APA.

With regard to claims 4, 6 and 8, the Office Action had not set forth any basis that would render these claims obvious. There is no discussion of any prior art disclosures that anticipates or renders obvious each and every feature recited in these claims. With regard to claim 4, the Office Action merely stated "claim 4 inherits all limitations of claims 2 and 3." With regard to claim 6, the Office Action merely stated "claim 6 inherits all limitations of claims 2 and 5." With regard to claim

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8 the Office Action merely stated "claim 8 inherits all limitations of claims 2 and 7." Whether or not each of claims 4, 6 and 8 "inherits" any of the limitations of other claims is irrelevant to whether the cited prior art anticipates or renders obvious each and every feature recited in these claims. The Office Action had not set forth any basis in support of the rejections for these claims. Accordingly, the rejections of claims 4, 6 and 8 are improper and should be withdrawn.

It should also be noted that claim 4 does not depend on claim 2 and does not "inherit all limitations of claim 2" as alleged in the Office Action. Likewise, claim 6 does not depend from claim 2 and does not "inherit" any limitations of claim 2, as alleged in the Office Action. Likewise, claim 8 does not depend on claim 2 and does not "inherit" any limitations of claim 2, as alleged in the Office Action.

Claim 9 was rejected under 35 U.S.C. §103 over the Applicant's APA, in view of **Jokura** (USP 5,541,929). The further reference to **Jokura** was made for allegedly disclosing a PLL frequency synthesizer as being part of a transmitter-receiver. However, claim 9 recites a first initializing signal generator and a second initializing signal generator which is not taught or suggested in the Applicant's APA as discussed above. The further reference to **Jokura** does not remedy the deficiencies in the primary reference to the Applicant's APA.

Claim 10 was rejected under 35 U.S.C. §103 over the Applicant's APA, in combination with **Jokura**, and **Yoshinaka**. However, claim 10 distinguishes over the prior art for at least the reasons that its independent base claim 9 distinguishes over the prior art.

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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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